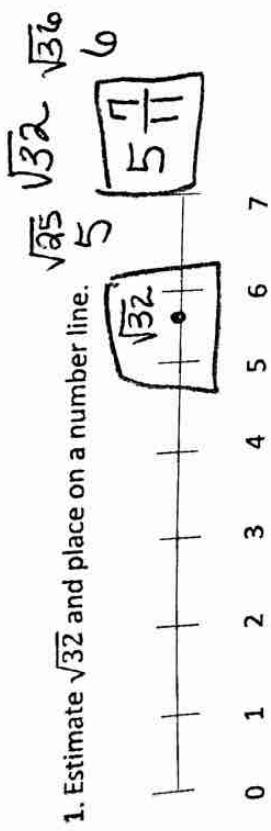


Answer Key

Name



2. What's the difference between rational and irrational numbers? Give an example of each.

Rational can be written as fractions and are repeating or terminating decimals.
Irrational are never repeating or ending fractions. Rat ex: $\frac{5}{7}$ or $0.\overline{714285}$
irr ex: π or $3.1416\dots$

3. Simplify $\left(\frac{5x^3y^5}{10x^2y}\right)^{-3}$

$$\left(\frac{5x^3y^5}{10x^2y}\right)^{-3} = \frac{8y^6}{x^3}$$

4. Simplify $(7x^{-3}y^7)^2$

$$\frac{49y^{14}}{x^6}$$

5. $(3xy)(7x^2y^4) 2x^3y^5$

6. $(7 \times 10^3)(2 \times 10^4)$

$$1.4 \times 10^8$$

7. $(8 \times 10^4) \div (4 \times 10^3)$

$$2 \times 10^1$$

8. Solve $2(x-3) + 7 = 5x - 2$

$$2x - 6 + 7 = 5x - 2$$

$$2x + 1 = 5x - 2$$

$$\frac{-5x}{-5x} \quad \frac{-1}{-5x}$$

$$-3x + 1 = -2$$

$$\frac{-3x}{-3} \quad \frac{-1}{-3}$$

$$x = 1$$

$$x = 1$$

9. Solve $\frac{3}{4}(x+1) = \frac{1}{2}(2x+7)$

$$LCD = 4$$

$$3(x+1) = 2(2x+7)$$

$$3x+3 = 4x+14$$

$$\frac{-4x}{-4x} \quad \frac{-4x}{-4x}$$

$$\frac{-1x+3}{-3} = \frac{14}{-3}$$

$$\frac{-1x}{-3} = \frac{11}{-3}$$

$$x = -11$$

$$x = -11$$

10. $\sqrt{81}$

± 9 5

12. $\sqrt{64}$

± 8

13. If the volume of a cube is 27 cm^3 . Determine the length of a side of that cube.

$$\sqrt[3]{27} = 3$$

14. Ivan can rent a car for \$20 and \$.30 per mile from AAA car rental, or he could rent a car from PRO car rental for \$25 and \$.10 per mile. How many miles would he drive to spend an equal amount of money at both places.

$$20 + .30x = 25 + .10x$$

$$\frac{-25}{-25} \quad \frac{-25}{-25}$$

$$\frac{-5 + .30x}{-.30x} = \frac{.10x}{-.30x}$$

$$\frac{-5}{-.30} = \frac{.10x}{-.30}$$

$$16.67 = .33x$$

$$x = 50$$

$$x = 25 \text{ miles}$$